

FIG. 1A

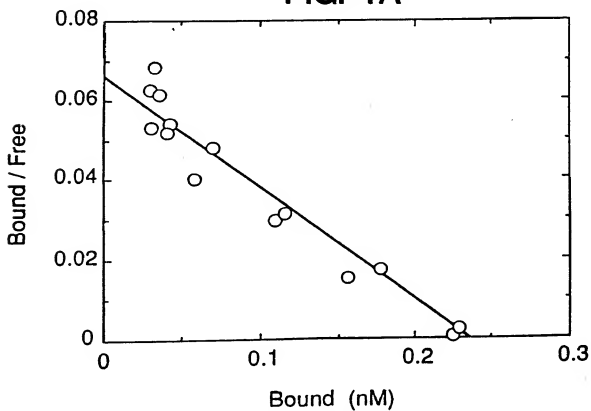


FIG. 1B

ATG	TCA	AAT	ATT	ACA	GAT	CCA	CAG	ATG	TGG	GAT	TTT	86	
M t	Ser	Asn	Ile	Thr	Asp	Pro	Gln	Met	Trp	Asp	Phe		
1				5				10					
GAT	GAT	CTA	AAT	TTC	ACT	GGC	ATG	CCA	CCT	GCA	GAT	GAA	125
Asp	Asp	Leu	Asn	Phe	Thr	Gly	Met	Pro	Pro	Ala	Asp	Glu	
	15						20					25	
GAT	TAC	AGC	CCC	TGT	ATG	CTA	GAA	ACT	GAG	ACA	CTC	AAC	164
Asp	Tyr	Ser	Pro	Cys	Met	Leu	Glu	Thr	Glu	Thr	Leu	Asn	
			30						35				
AAG	TAT	GTT	GTG	ATC	ATC	GCC	TAT	GCC	CTA	GTG	TTC	CTG	203
Lys	Tyr	Val	Val	Ile	Ile	Ala	Tyr	Ala	Leu	Val	Phe	Leu	
	40					45					50		
CTG	AGC	CTG	CTG	GGA	AAC	TCC	CTG	GTG	ATG	CTG	GTC	ATC	242
Leu	Ser	Leu	Leu	Gly	Asn	Ser	Leu	Val	Met	Leu	Val	Ile	
			55					60					
TTA	TAC	AGC	AGG	GTC	GGC	CGC	TCC	GTC	ACT	GAT	GTC	TAC	281
Leu	Tyr	Ser	Arg	Val	Gly	Arg	Ser	Val	Thr	Asp	Val	Tyr	
	65				70					75			
CTG	CTG	AAC	CTG	GCC	TTG	GCC	GAC	CTA	CTC	TTT	GCC	CTG	320
Leu	Leu	Asn	Leu	Ala	Leu	Ala	Asp	Leu	Leu	Phe	Ala	Leu	
		80				85						90	
ACC	TTG	CCC	ATC	TGG	GCC	GCC	TCC	AAG	GTG	AAT	GGC	TGG	359
Thr	Leu	Pro	Ile	Trp	Ala	Ala	Ser	Lys	Val	Asn	Gly	Trp	
			95						100				
ATT	TTT	GGC	ACA	TTC	CTG	TGC	AAG	GTG	GTC	TCA	CTC	CTG	398
Ile	Phe	Gly	Thr	Phe	Leu	Cys	Lys	Val	Val	Ser	Leu	Leu	
	105					110					115		
AAG	GAA	GTC	AAC	TTC	TAC	AGT	GGC	ATC	CTG	CTG	TTG	GCC	437
Lys	Glu	Val	Asn	Phe	Tyr	Ser	Gly	Ile	Leu	Leu	Leu	Ala	
			120					125					
TGC	ATC	AGT	GTG	GAC	CGT	TAC	CTG	GCC	ATT	GTC	CAT	GCC	476
Cys	Ile	Ser	Val	Asp	Arg	Tyr	Leu	Ala	Ile	Val	His	Ala	
	130				135					140			
ACA	CGC	ACA	CTG	ACC	CAG	AAG	CGT	CAC	TTG	GTC	AAG	TTT	515
Thr	Arg	Thr	Leu	Thr	Gln	Lys	Arg	His	Leu	Val	Lys	Phe	
			145				150					155	
GTT	TGT	CTT	GGC	TGC	TGG	GGA	CTG	TCT	ATG	AAT	CTG	TCC	554
Val	Cys	Leu	Gly	Cys	Trp	Gly	Leu	Ser	Met	Asn	Leu	Ser	
			160						165				
CTG	CCC	TTC	TTC	CTT	TTC	CGC	CAG	GCT	TAC	CAT	CCA	AAC	593
Leu	Pro	Phe	Phe	Leu	Phe	Arg	Gln	Ala	Tyr	His	Pro	Asn	
	170					175					180		
AAT	TCC	AGT	CCA	GTT	TGC	TAT	GAG	GTC	CTG	GGA	AAT	GAC	632
Asn	S r	Ser	Pro	Val	Cys	Tyr	Glu	Val	Leu	Gly	Asn	Asp	
			185					190					
ACA	GCA	AAA	TGG	CGG	ATG	GTG	TTG	CGG	ATC	CTG	CCT	CAC	671
Thr	Ala	Lys	Trp	Arg	Met	Val	Leu	Arg	Ile	Leu	Pro	His	
	195				200					205			

FIG. 2A

ACC TTT GGC TTC ATC GTG CCG CTG TTT GTC ATG CTG TTC 710
 Thr Phe Gly Phe Ile Val Pro Leu Phe Val M t L u Phe
 210 215 220

TGC TAT GGA TTC ACC CTG CGT ACA CTG TTT AAG GCC CAC 749
 Cys Tyr Gly Phe Thr Leu Arg Thr Leu Phe Lys Ala His
 225 230

ATG GGG CAG AAG CAC CGA GCC ATG AGG GTC ATC TTT GCT 788
 Met Gly Gln Lys His Arg Ala Met Arg Val Ile Phe Ala
 235 240 245

GTC GTC CTC ATC TTC CTG CTT TGC TGG CTG CCC TAC AAC 827
 Val Val Leu Ile Phe Leu Leu Cys Trp Leu Pro Tyr Asn
 250 255

CTG GTC CTG CTG GCA GAC ACC CTC ATG AGG ACC CAG GTG 866
 Leu Val Leu Leu Ala Asp Thr Leu Met Arg Thr Gln Val
 260 265 270

ATC CAG GAG ACC TGT GAG CGC CGC AAC AAC ATC GGC CGG 905
 Ile Gln Glu Thr Cys Glu Arg Arg Asn Asn Ile Gly Arg
 275 280 285

GCC CTG GAT GCC ACT GAG ATT CTG GGA TTT CTC CAT AGC 944
 Ala Leu Asp Ala Thr Glu Ile Leu Gly Phe Leu His Ser
 290 295

TGC CTC AAC CCC ATC ATC TAC GCC TTC ATC GGC CAA AAT 983
 Cys Leu Asn Pro Ile Ile Tyr Ala Phe Ile Gly Gln Asn
 300 305 310

TTT CGC CAT GGA TTC CTC AAG ATC CTG GCT ATG CAT GGC 1022
 Phe Arg His Gly Phe Leu Lys Ile Leu Ala Met His Gly
 315 320

CTG GTC AGC AAG GAG TTC TTG GCA CGT CAT CGT GTT ACC 1061
 Leu Val Ser Lys Glu Phe Leu Ala Arg His Arg Val Thr
 325 330 335

TCC TAC ACT TCT TCG TCT GTC AAT GTC TCT TCC AAC CTC 1100
 Ser Tyr Thr Ser Ser Ser Val Asn Val Ser Ser Asn Leu
 340 345 350

TGAAAACCAT CGATGAAGGA ATATCTCTTC TCAGAAGGAA AGAATAACCA 1150

ACACCCTGAG GTTGTGTGTG GAAGGTGATC TGGCTCTGGA CAGGCACTAT 1200

CTGGGTTTTC GGGGGACGCT ATAGGATGTG GGGAAAGTTAG GAACTGGTGT 1250

CTTCAAGGGC CACACCAACC TTCTGAGGAG CTGTTGAGGT ACCTCCAAGG 1300

ACCGGCCTTT GCACCTCCAT GGAAACGAAG CACCATCATT CCCGTTGAAC 1350

GTCACATCTT TAACCCACTA ACTGGCTAAT TAGCATGGCC ACATCTGAGC 1400

CCCGAATCTG ACATTAGATG AGAGAACAGG GCTGAAGCTG TGTCCTCATG 1450

FIG. 2B

AGGGCTGGAT GCTCTCGTTG ACCCTCACAG GAGCATCTCC TCAACTCTGA 1500
GTGTTAAGCG TTGAGCCACC AAGCTGGTGG CTCTGTGTGC TCTGATCCGA 1550
GCTCAGGGGG GTGGTTTTCC CATCTCAGGT GTGTTGCAGT GTCTGCTGGA 1600
GACATTGAGG CAGGCACTGC CAAAACATCA ACCTGCCAGC TGGCCTTGTC 1650
AGGAGCTGGA AACACATGTT CCCCTTGGGG GTGGTGGATG AACAAAGAGA 1700
AAGAGGGTTT GGAAGCCAGA TCTATGCCAC AAGAACCCCC TTACCCCCA 1750
TGACCAACAT CGCAGACACA TGTGCTGGCC ACCTGCTGAG CCCCAGTGG 1800
AACGAGACAA GCAGCCCTTA GCCCTTCCCC TCTGCAGCTT CCAGGCTGGC 1850
GTGCAGCATC AGCATCCCTA GAAAGCCATG TGCAGCCACC AGTCCATTGG 1900
GCAGGCAGAT GTTCCTAATA AAGCTTCTGT TCC 1933

FIG. 2C

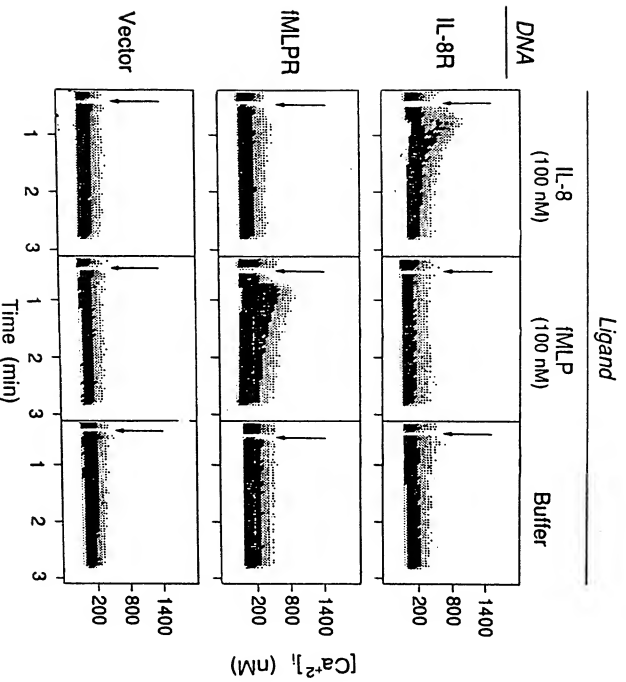


FIG. 3A

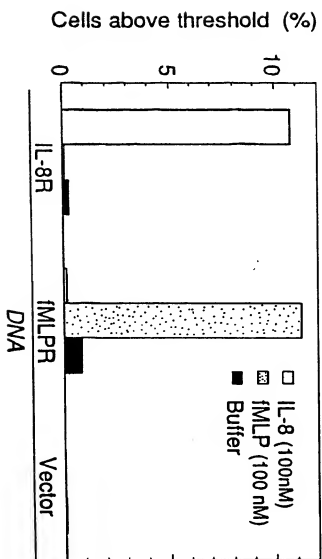


FIG. 3B

GAATTCAGT GTGCTGGCGG CGCGGCGCAA AGTGACGCCG AGGGCCTGAG 50

TGCTCCAGTA GCCACCGCAT CTGGAGAACC AGCGGTTACC ATG GAG 96
Met Glu
1

GGG ATC AGT ATA TAC ACT TCA GAT AAC TAC ACC GAG GAA 135
Gly Ile Ser Ile Tyr Thr Ser Asp Asn Tyr Thr Glu Glu
5 10 15

ATG GGC TCA GGG GAC TAT GAC TCC ATG AAG GAA CCC TGT 174
Met Gly Ser Gly Asp Tyr Asp Ser Met Lys Glu Pro Cys
20 25

TTC CGT GAA GAA AAT GCT AAT TTC AAT AAA ATC TTC CTG 213
Phe Arg Glu Glu Asn Ala Asn Phe Asn Lys Ile Phe Leu
30 35 40

CCC ACC ATC TAC TCC ATC ATC TTC TTA ACT GGC ATT GTG 252
Pro Thr Ile Tyr Ser Ile Ile Phe Leu Thr Gly Ile Val
45 50

GGC AAT GGA TTG GTC ATC CTG GTC ATG GGT TAC CAG AAG 291
Gly Asn Gly Leu Val Ile Leu Val Met Gly Tyr Gln Lys
55 60 65

AAA CTG AGA AGC ATG ACG GAC AAG TAC AGG CTG CAC CTG 330
Lys Leu Arg Ser Met Thr Asp Lys Tyr Arg Leu His Leu
70 75 80

TCA GTG GCC GAC CTC CTC TTT GTC ATC ACG CTT CCC TTC 369
Ser Val Ala Asp Leu Leu Phe Val Ile Thr Leu Pro Phe
85 90

TGG GCA GTT GAT GCC GTG GCA AAC TGG TAC TTT GGG AAC 408
Trp Ala Val Asp Ala Val Ala Asn Trp Tyr Phe Gly Asn
95 100 105

TTC CTA TGC AAG GCA GTC CAT GTC ATC TAC ACA GTC AAC 447
Phe Leu Cys Lys Ala Val His Val Ile Tyr Thr Val Asn
110 115

CTC TAC AGC AGT GTC CTC ATC CTG GCC TTC ATC AGT CTG 486
Leu Tyr Ser Ser Val Leu Ile Leu Ala Phe Ile Ser Leu
120 125 130

GAC CGC TAC CTG GCC ATC GTC CAC GCC ACC AAC AGT CAG 525
Asp Arg Tyr Leu Ala Ile Val His Ala Thr Asn Ser Gln
135 140 145

AGG CCA AGG AAG CTG TTG GCT GAA AAG GTG GTC TAT GTT 564
Arg Pro Arg Lys Leu Leu Ala Glu Lys Val Val Tyr Val
150 155

GGC GTC TGG ATC CCT GCC CTC CTG CTG ACT ATT CCC GAC 603
Gly Val Trp Ile Pro Ala Leu Leu Leu Thr Ile Pro Asp
160 165 170

TTC ATC TTT GCC AAC GTC AGT GAG GCA GAT GAC AGA TAT 642
Phe Ile Phe Ala Asn Val Ser Glu Ala Asp Asp Arg Tyr
175 180

FIG. 4A

ATC TGT GAC CGC TTC TAC CCC AAT GAC TTG TGG GTG GTT 681
 Ile Cys Asp Arg Ph Tyr Pro Asn Asp Leu Trp Val Val
 185 190 195

GTG TTC CAG TTT CAG CAC ATC ATG GTT GGC CTT ATC CTG 720
 Val Phe Gln Phe Gln His Ile Met Val Gly Leu Ile Leu
 200 205 210

CCT GGT ATT GTC ATC CTG TCC TAT TGC ATT ATC ATC 759
 Pro Gly Ile Val Ile Leu Ser Cys Tyr Cys Ile Ile Ile
 215 220

TCC AAG CTG TCA CAC TCC AAG GGC CAC CAG AAG CGC AAG 798
 Ser Lys Leu Ser His Ser Lys Gly His Gln Lys Arg Lys
 225 230 235

GCC CTC AAG ACC ACA GTC ATC CTC ATC CTG GCT TTC TTC 837
 Ala Leu Lys Thr Thr Val Ile Leu Ile Ala Phe Phe
 240 245

GCC TGT TGG CTG CCT TAC TAC ATT GGG ATC AGC ATC GAC 876
 Ala Cys Trp Leu Pro Tyr Tyr Ile Gly Ile Ser Ile Asp
 250 255 260

TCC TTC ATC CTC CTG GAA ATC ATC AAG CAA GGG TGT GAG 915
 Ser Phe Ile Leu Leu Glu Ile Ile Lys Gln Gly Cys Glu
 265 270 275

TTT GAG AAC ACT GTG CAC AAG TGG ATT TCC ATC ACC GAG 954
 Phe Glu Asn Thr Val His Lys Trp Ile Ser Ile Thr Glu
 280 285

GCC CTA GCT TTC TTC CAC TGT TGT CTG AAC CCC ATC CTC 993
 Ala Leu Ala Phe Phe His Cys Cys Leu Asn Pro Ile Leu
 290 295 300

TAT GCT TTC CTT GGA GCC AAA TTT AAA ACC TCT GCC CAG 1032
 Tyr Ala Phe Leu Gly Ala Lys Phe Lys Thr Ser Ala Gln
 305 310

CAC GCA CTC ACC TCT GTG AGC AGA GGG TCC AGC CTC AAG 1071
 His Ala Leu Thr Ser Val Ser Arg Gly Ser Ser Leu Lys
 315 320 325

ATC CTC TCC AAA GGA AAG CGA GGT GGA CAT TCA TCT GTT 1110
 Ile Leu Ser Ser Lys Gly Lys Arg Gly Gly His Ser Ser Val
 330 335 340

TCC ACT GAG TCT GAG TCT TCA AGT TTT CAC TCC AGC TAAC 1150
 Ser Thr Glu Ser Glu Ser Ser Ser Phe His Ser Ser
 345 350 352

ACAGATGTAA AAGACTTTTT TTTATACGAT AAATAACTTT TTTTAAAGTT 1200

ACACATTTTT CAGATATAAA AGACTGACCA ATATTGTACA GTTTTTATTG 1250

CTTGTTGGAT TTTTGTCTTG TGTTCTTTA GTTTTTGTGA AGTTAAATTG 1300

ACTTATTAT ATAAATTTTT TTTGTTTCAT ATTGATGTGT GTCTAGGCAG 1350

FIG. 4B

GACCTGTGGC CAAGTTCTTA GTTGCTGTAT GTCTCGTGGT AGGACTGTAG 1400
AAAAGGGAAC TGAACATTCC AGAGCGTGTA GTGAATCACG TAAAGCTAGA 1450
AATGATCCCC AGCTGTTTAT GCATAGATAA TCTCTCCATT CCCGTGGAAC 1500
GTTTTTCCTG TTCTTAAGAC GTGATTTTGC TGTAAGAAGT GGCACTTATA 1550
ACCAAAGCCC AAAGTGGTAT AGAAATGCTG GTTTTTCAGT TTTCAGGAGT 1600
GGGTGATT T CAGCACCTAC AGTGTCAGT CTTGTATTAA GTTGTTAATA 1650
AAAGTACATG TTAAACTTAA AAAAAAAAAA AAAAAAAAAA AAAAAAAAAA 1700
AAAAAAAAAA AAAGCGGCCG CCAGCACACT GGAATTC 1737

FIG. 4C

GAATTCCAGT GTGCTGGCGG CCGCCCAGTG TGCTGGCGGC GGCAGTTGAG 50
 GGAAAGGACA GAGGTTATGA GTGCCTGCAA GAGTGGCAGC CTGGAGTAGA 100
 GAAACACTA AAGGTGGAGT CAAAAGACCT GAGTTCAAGT CCCAGCTCTG 150
 CCACTGGTTA GCTGTGGGAT CTCGGAAAAA ACCCAGTGAA AAAAAAAAAA 200
 AAAGTGATGA GTTGTGAGGC AGGTGCGCGC CCTACTGCCT CAGGAGACGA 250
 TGCAGCAGCTC ATTTGCTTAA ATTTGCAGCT GACGGCTGCC ACCTCTCTAG 300
 AGGCACCTGG CGGGGAGCCT CTCAACATAA GACAGTGACC AGTCTGGTGA 350

CTCACAGCCG GCACAGCC ATG AAC TAC CCG CTA ACG CTG GAA 392
 Met Asn Tyr Pro Leu Thr Leu Glu
 1 5

ATG GAC CTC GAG AAC CTG GAG GAC CTG TTC TGG GAA CTG 431
 Met Asp Leu Glu Asn Leu Glu Asp Leu Phe Trp Glu Leu
 10 15 20

GAC AGA TTG GAC AAC TAT AAC GAC ACC TCC CTG GTG GAA 470
 Asp Arg Leu Asp Asn Tyr Asn Asp Thr Ser Leu Val Glu
 25 30

AAT CAT CTC TGC CCT GCC ACA GAG GGG CCC CTC ATG GCC 509
 Asn His Leu Cys Pro Ala Thr Glu Gly Pro Leu Met Ala
 35 40 45

TCC TTC AAG GCC GTG TTC GTG CCC GTG GCC TAC AGC CTC 548
 Ser Phe Lys Ala Val Phe Val Pro Val Ala Tyr Ser Leu
 50 55 60

ATC TTC CTC CTG GGC GTG ATC GGC AAC GTC CTG GTG CTG 587
 Ile Phe Leu Leu Gly Val Ile Gly Asn Val Leu Val Leu
 65 70

GTG ATC CTC GAG CGG CAC CGG CAG ACA CGC AGT TCC ACG 626
 Val Ile Leu Glu Arg His Arg Gln Thr Arg Ser Ser Thr
 75 80 85

GAG ACC TTC CTG TTC CAC CTG GCC GTG GCC GAC CTC CTG 665
 Glu Thr Phe Leu Phe His Leu Ala Val Ala Asp Leu Leu
 90 95

CTG GTC TTC ATC TTG CCC TTT GCC GTG GCC GAG GGC TCT 704
 Leu Val Phe Ile Leu Pro Phe Ala Val Ala Glu Gly Ser
 100 105 110

GTG GGC TGG GTC CTG GGG ACC TTC CTC TGC AAA ACT GTG 743
 Val Gly Trp Val Leu Gly Thr Phe Leu Cys Lys Thr Val
 115 120 125

ATT GCC CTG CAC AAA GTC AAC TTC TAC TGC AGC AGC CTG 782
 Ile Ala Leu His Lys Val Asn Phe Tyr Cys Ser Ser Leu
 130 135

FIG. 5A

CTC CTG GCC TGC ATC GCC GTG GAC CGC TAC CTG GCC ATT 821
 Leu Leu Ala Cys Ile Ala Val Asp Arg Tyr Leu Ala Ile
 140 150

GTC CAC GCC GTC CAT GCC TAC CGC CAC CGC CGC CTC CTC 860
 Val His Ala Val His Ala Tyr Arg His Arg Arg Leu Leu
 155 160

TCC ATC CAC ATC ACC TGT GGG ACC ATC TGG CTG GTG GGC 899
 Ser Ile His Ile Thr Cys Gly Thr Ile Trp Leu Val Gly
 165 170 175

TTC CTC CTT GCC TTG CCA GAG ATT CTC TTC GCC AAA GTC 938
 Phe Leu Leu Ala Leu Pro Glu Ile Leu Phe Ala Lys Val
 180 185 190

AGC CAA GGC CAT CAC AAC AAC TCC CTG CCA CGT TGC ACC 977
 Ser Gln Gly His His Asn Asn Ser Leu Pro Arg Cys Thr
 195 200

TTC TCC CAA GAG AAC CAA GCA GAA ACG CAT GCC TGG TTC 1016
 Phe Ser Gln Glu Asn Gln Ala Glu Thr His Ala Trp Phe
 205 210 215

ACC TCC CGA TTC CTC TAC CAT GTG GCG GGA TTC CTG CTG 1055
 Thr Ser Arg Phe Leu Tyr His Val Ala Gly Phe Leu Leu
 220 225

CCC ATG CTG GTG ATG GGC TGG TGC TAC GTG GGG GTA GTG 1094
 Pro Met Leu Val Met Gly Trp Cys Tyr Val Gly Val Val
 230 235 240

CAC AGG TTG CGC CAG GCC CAG CGG CGC CCT CAG CGG CAG 1133
 His Arg Leu Arg Gln Ala Gln Arg Arg Pro Gln Arg Gln
 245 250 255

AAG GCA GTC AGG GTG GCC ATC CTG GTG ACA AGC ATC TTC 1172
 Lys Ala Val Arg Val Ala Ile Leu Val Thr Ser Ile Phe
 260 265

TTC CTC TGC TGG TCA CCC TAC CAC ATC GTC ATC TTC CTG 1211
 Phe Leu Cys Trp Ser Pro Tyr His Ile Val Ile Phe Leu
 270 275 280

GAC ACC CTG GCG AGG CTG AAG GCC GTG GAC AAT ACC TGC 1250
 Asp Thr Leu Ala Arg Leu Lys Ala Val Asp Asn Thr Cys
 285 290

AAG CTG AAT GGC TCT CTC CCC GTG GCC ATC ACC ATG TGT 1289
 Lys Leu Asn Gly Ser Leu Pro Val Ala Ile Thr Met Cys
 295 300 305

GAG TTC CTG GGC CTG GCC CAC TGC TGC CTC AAC CCC ATG 1328
 Glu Phe Leu Gly Leu Ala His Cys Cys Leu Asn Pro Met
 310 315 320

CTC TAC ACT TTC GCC GGC GTG AAG TTC CGC AGT GAC CTG 1367
 Leu Tyr Thr Ph Ala Gly Val Lys Phe Arg Ser Asp L u
 325 330

TCG CGG CTC CTG ACG AAG CTG GGC TGT ACC GGC CCT GCC 1406
 Ser Arg Leu Leu Thr Lys Leu Gly Cys Thr Gly Pro Ala
 335 340 345

FIG. 5B

TCC CTG TGC CAG CTC TTC CCT AGC TGG CGC AGG AGC AGT 1445
 Ser Leu Cys Gln Leu Phe Pro Ser Trp Arg Arg Ser Ser
 350 355

CTC TCT GAG TCA GAG AAT GCC ACC TCT CTC ACC ACG TTC TA 1486
 Leu Ser Glu Ser Glu Asn Ala Thr Ser Leu Thr Thr Phe
 360 365 370 372

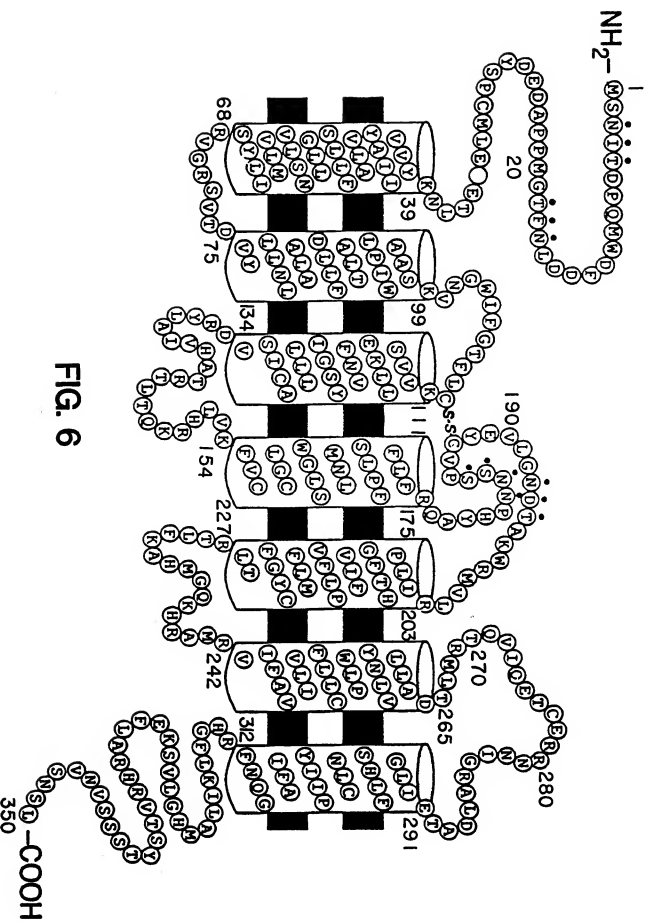
GGTC CCAGTGTCCC CTTTATTGC TGCTTTTCCT TGGGGCAGGC 1530

AGTGATGCTG GATGCTCCTT CCAACAGGAG CTGGGATCCT AAGGGCTCAC 1580

CGTGGCTAAG AGTGCCTAG GAGTATCCTC ATTTGGGGTA GCTAGAGGAA 1630

CCAACCCCCA TTTCTAGAAC ATCCCGCGGC CGCCAGCACA CTGGAATTC 1679

FIG. 5C



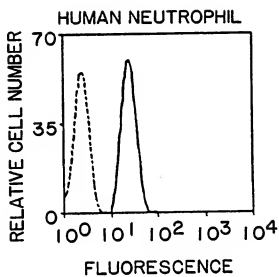


FIG. 7A

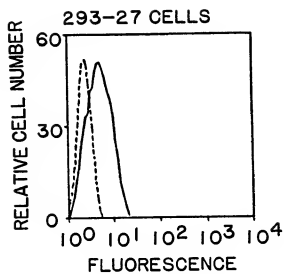


FIG. 7B

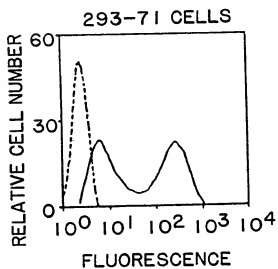


FIG. 7C

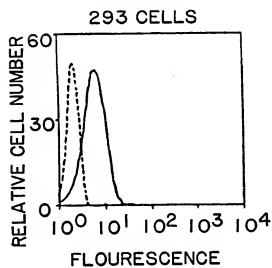


FIG. 7D

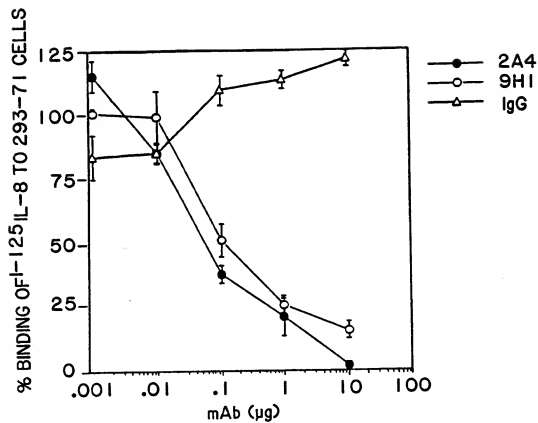


FIG. 8A

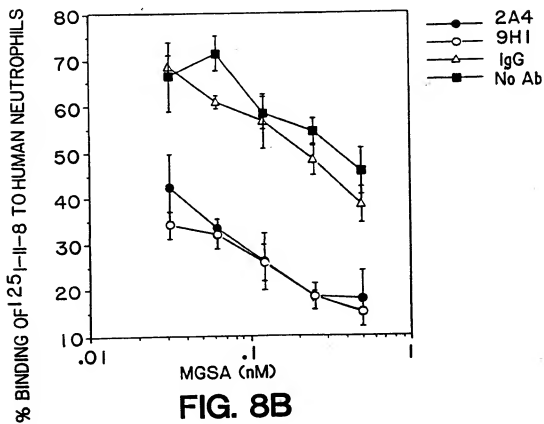


FIG. 8B

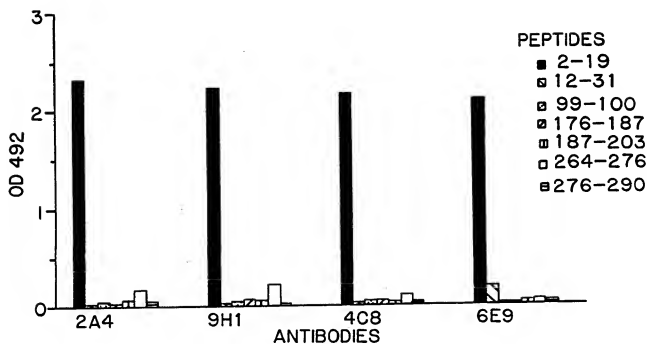


FIG. 9A

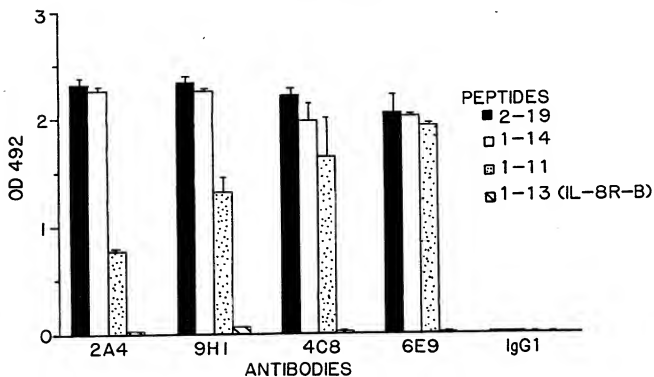


FIG. 9B

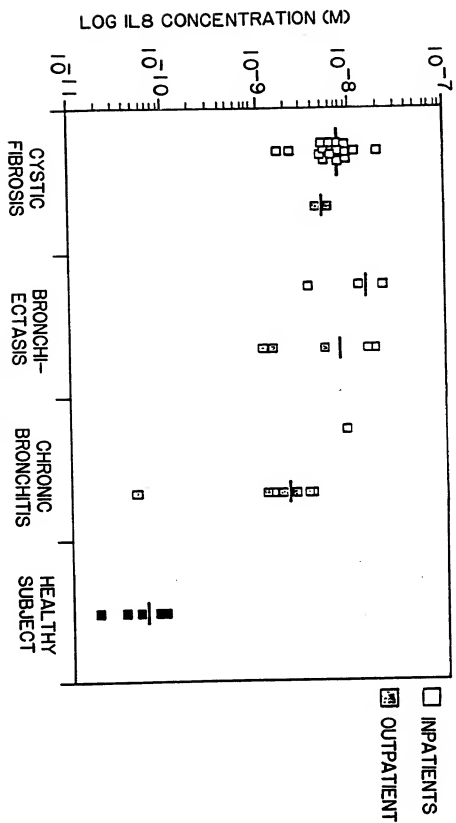


FIG. 10